AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:

using a processor to receive[[ing]] a sensor signal comprising a raw sensor value from a sensor, the raw sensor value associated with a position of a manipulandum in a range of motion;

using a processor to calculate[[ing]] an adjusted sensor value based at least in part on the raw sensor value and a compliance between the sensor and the manipulandum; and

using a processor to output[[ting]] an output signal comprising the adjusted sensor value.

2. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, wherein the compliance is associated with a compliance constant and a current output force.

3. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, further comprising using a processor to determine[[ing]] a closed-loop position-dependent force based at least in part on the raw sensor value.

4. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, further comprising transmitting forces from an actuator to the manipulandum with a belt drive.

5. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, further comprising using a processor to filter[[ing]] the raw sensor value for overshoot sensor values occurring at limits to the range of motion of the manipulandum.

6. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, further comprising using a processor to calibrate[[ing]] the range of motion of the manipulandum by adjusting minimum and maximum values of the range of motion based at least in part on an ~~the~~ extent of motion of the manipulandum up to a designated time.

7. (Currently Amended) The ~~A~~ method of ~~as recited in~~ claim 1, further comprising using a processor to normalize[[ing]] the raw sensor value to a normalized range of motion, wherein the adjusted sensor value is further associated with the normalized raw sensor value.

8. (Previously Presented) A device comprising:

a manipulandum;

a linkage mechanism providing a degree of freedom to the manipulandum;

a sensor operable to sense a position of the manipulandum in the degree of freedom and to output a raw sensor value representing the position; and

a processor, operable to:

receive a sensor signal from the sensor, the sensor signal comprising the raw sensor value;

calculate an adjusted sensor value based at least in part on the raw sensor value and a compliance between the sensor and the manipulandum; and

output an output signal comprising the adjusted sensor value.

9. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8, wherein the linkage mechanism includes a chain of four rotatably-coupled members coupled to ground at each end of the chain.

10. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8, further comprising an actuator coupled to the linkage mechanism, the actuator operative to output a force in the degree of freedom.

11. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 9, further comprising a belt drive transmission coupled between the actuator and the linkage mechanism.

12. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8, wherein the sensor comprises a relative digital encoder.

13. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8, wherein the sensor is coupled to the actuator such that the sensor is operable to detect rotation of a shaft of the actuator.

14. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8, wherein the processor is operable to calibrate a ~~the~~ range of motion of the manipulandum by adjusting minimum and maximum values of the range of motion based at least in part on an ~~the~~ extent of motion of the manipulandum up to a designated time.

15. (Currently Amended) The ~~A~~ device of ~~as recited in~~ claim 8 wherein the processor is operable to determine a closed-loop force based at least in part on the raw sensor value.

16-32. (Cancelled)

33. (Currently Amended) A non-transitory computer-readable medium on which is program code configured to processor to execute a method comprising:

receiving a sensor signal comprising a raw sensor value from a sensor, the raw sensor value associated with a position of a manipulandum in a range of motion;

calculating an adjusted sensor value based at least in part on the raw sensor value and a compliance between the sensor and the manipulandum; and

outputting an output signal comprising the adjusted sensor value.

34. (Currently Amended) The non-transitory computer-readable medium ~~A method~~ of ~~as recited in~~ claim 33, wherein the compliance is associated with a compliance constant and a current output force.

35. (Currently Amended) The non-transitory computer-readable medium ~~A method~~ of ~~as recited in~~ claim 33, further comprising determining a closed-loop position-dependent force based at least in part on the raw sensor value.

36. (Currently Amended) The non-transitory computer-readable medium ~~A method of as recited in~~ claim 33, further comprising transmitting forces from an actuator to the manipulandum with a belt drive.

37. (Currently Amended) The non-transitory computer-readable medium ~~A method of as recited in~~ claim 33, further comprising filtering the raw sensor value for overshoot sensor values occurring at limits to the range of motion of the manipulandum.

38. (Currently Amended) The non-transitory computer-readable medium ~~A method of as recited in~~ claim 33, further comprising calibrating the range of motion of the manipulandum by adjusting minimum and maximum values of the range of motion based at least in part on a ~~the~~ extent of motion of the manipulandum up to a designated time.